Reference/Title (LER #, Inspection Report #, etc): 2000-10

Factual Description of Identified Condition (statement of facts known about the finding, without hypothetical failures included):

On February 15, 2000 A SGTL occured at IP2 due to PWSCC in the APEX of a Row 2 tube (R2C5). The NRC has determined that a number of Performance issues during a 1997 SG tube inspection were the root Cause for this Event.

System(s)affected by identified condition: RCS boundary

Train(s) affected by identified condition: N/A

Licensing Basis Function of System(s) or Train(s) (as applicable):

Other Safety Function of System(s) or Train(s) (as applicable):

Maintenance Rule category (check one): N/A ____ risk-significant ____ non-risk-significant

Time that identified condition existed or is assumed to have existed:

C/37

Functions and Cornerstones affected as a result of this identified condition (check ✓)

INITIATING EVENT CORNERSTONE

__X__ Transient initiator contributor (e.g., reactor/turbine trip, loss offsite power)

__X__ Primary or Secondary system LOCA initiator contributor (e.g., RCS or main steam/feedwater pipe degradations and leaks)

MITIGATION SYSTEMS CORNERSTONE

BARRIERS CORNERSTONE

_____ Core Decay Heat Removal Degraded

__X__ RCS LOCA Mitigation Boundary Degraded (e.g., PORV block valve, PTS issue)

_____ Initial Injection Heat Removal Degraded

_____ Primary (e.g., Safety Inj)_____ Containment Barrier Degraded

____ Low Pressure_____ Reactor Containment Degraded

____ High Pressure _____ Actual Breach or Bypass

_____ Secondary - PWR only (e.g., AFW)_____ Heat Removal, Hydrogen or Pressure Control Degraded

_____ Long Term Heat Removal Degraded (e.g., ECCS sump recirculation, suppression pool cooling)

_____ Control Room, Aux Bldg, or Spent

Fuel Bldg Barrier Degraded

_____ Reactivity Control Degraded

_____ Fuel Cladding Barrier Degraded

_____ Fire/Flood/Seismic/WeatherProtection Degraded

SDP PHASE 1 SCREENING WORKSHEET FOR IE, MS, and B CORNERSTONES

Check the appropriate boxes ✔

If the finding is assumed to affect:

1. fire barrier or suppression features, use IMC 0609 Appendix F
2. the safety of a shutdown reactor, use IMC 0609 Appendix G
3. the safety of an operating reactor, identify the affected areas:

■ Initiating Event ☐ Mitigation Systems ■ RCS Barrier ☐ Fuel Barrier

☐ Containment Barriers

4. None of the above areas affected → screen as Green
5. Two or more of the above areas affected → Go to Phase 2
6. If only one of the above areas is affected, continue only in the appropriate column below.

Table 2.7 SDP Worksheet for Indian Point Unit 2 Nuclear Plant — SGTR

Estimated Frequency (Table 1 Row) I Exposure Time > 30 DAYS Table 1 Result (circle): (A) B C D E F G H

Safety Functions Needed:	*Full* Creditable Mitigation Capability for each Safety Function:
Secondary Heat Removal (AFW)	1 / 2 MDAFW trains (1 multi-train system) or 1 TDAFW train (1 ASD train)
Early Inventory, HP Injection (EIHP)	1 / 3 HPI pumps (1 multi-train system)
Primary/Secondary pressure Equalization (EQ)	Operator isolates the ruptured SG and depressurizes RCS to less than setpoint of safety valves of SG (operator action under high stress)[1]
Rapid Depressurization (RAPDEP)	Operator depressurizes rapidly using 3 / 3 SG ARV with 2 / 3 AFW trains (operator action under high stress)[2]
Primary Heat Removal, Feed/Bleed (FB)	2 / 2 PORVs open for Feed/Bleed (operator action)
High Pressure Recirculation (HPR)	1 / 3 HPI pumps with (1 / 2 LPIS pumps or 1 / 2 RSS pumps) with switchover to recirculation (operator action)
Makeup RWST (MKRWST)	Operator aligns primary water storage tank to RWST (operator action)
RHR in shutdown cooling mode (SDC)	1 / 2 RHR pumps in shutdown cooling mode (1 multi-train system)

Circle Affected Functions	**Recovery of Failed Train**	***Remaining Mitigation Capability Rating for Each Affected Sequence***	**Sequence Color**
1 SGTR - EQ - SDC (3, 7, 13)		1 (EQ) + 3(SDC) = 4	YELLOW
2 SGTR - EQ - MKRWST (4, 14)		1 (EQ) + 2 (MKRWST) = (3)	(RED)
3 SGTR - EIHP - EQ - RAPDEP (8)		3 (EIHP) + 1 (EQ) + 1 (RAPDEP) = 5	WHITE
4 SGTR - AFW - HPR (10)		3+1 (AFW) + 2 (HPR) = 6	GREEN
5 SGTR - AFW - FB (11, 15)		3+1 (AFW) + 2 (FB) = 6	GREEN
6 SGTR - AFW - EIHP (16)		3+1 (AFW) + 3 (EIHP) = 7	GREEN

Identify any operator recovery actions that are credited to directly restore the degraded equipment or initiating event:

If operator actions are required to credit placing mitigation equipment in service or for recovery actions, such credit should be given only if the following criteria are met: 1) sufficient time is available to implement these actions, 2) environmental conditions allow access where needed, 3) procedures exist, 4) training is conducted on the existing procedures under conditions similar to the scenario assumed, and 5) any equipment needed to complete these actions is available and ready for use.